DOCKET NO. 117 - AN APPLICATION OF METRO MOBILE CTS OF NEW HAVEN, INC., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF A CELLULAR TELEPHONE TOWER AND ASSOCIATED EQUIPMENT IN THE TOWN OF NORTH HAVEN, CONNECTICUT.

CONNECTICUT

SITING

COUNCIL

JANUARY 16, 1990

FINDINGS OF FACT

1. Metro Mobile CTS of New Haven, Inc., in accordance with the provisions of Sections 16-50g to 16-50z of the Connecticut General Statutes (CGS), applied to the Connecticut Siting Council (Council) on August 24, 1989, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a telecommunications tower and associated equipment to provide increased domestic public cellular radio telecommunications service (cellular service) in the Town of North Haven within the New Haven, Connecticut, New England County Metropolitan Area (New Haven NECMA). (Record)

2. The application was accompanied by proof of service as required by Section 16-501 of the CGS. (Metro Mobile 1, Exhibit 4)

3. Public notice of the application, as required by Section 16-501, was published in The New Haven Register on August 21 and 23, 1989. (Metro Mobile 1, Exhibit 5)

4. The Council and its staff made an inspection of the proposed and alternate North Haven sites on November 1, 1989. The inspection was publicly noticed in the New Haven Register, October 11, 1989. During the field review, Metro Mobile flew a balloon at the proposed and alternate tower sites to simulate the height of the proposed tower. (Record)

5. Pursuant to Section 16-50m of the CGS, the Council, after giving due notice thereof, held a public hearing on the proposed tower site on November 1, 1989, beginning at 4:00 p.m., and reconvening at 7:00 p.m., in the North Haven Town Hall Conference Room #3, 18 Church Street, North Haven, Connecticut. (Record)

6. The parties in the proceeding are the applicant and those persons and organizations whose names are listed in the Decision and Order, which accompanies these Findings of Fact. (Record)

7. The Department of Environmental Protection (DEP) filed written comments with the Council pursuant to Section 16-50j of the CGS in the letter dated October 19, 1989. (Record)

8. The Southeastern Connecticut Regional Planning Agency filed written comments with the Council by letter dated October 17, 1989. (Metro Mobile 5)

9. In 1981, the Federal Communications Commission (FCC) recognized a national need for technical improvement, wide area coverage, high quality service, and competitive pricing in mobile telephone service. (Metro Mobile 1, pp. 5, 6)

10. Conventional mobile telephone service has been limited by insufficient frequency availability, inefficient frequency use, and poor quality of service. These limitations have resulted in call congestion, transmission blocking, interference, lack of coverage, and high costs. (Metro Mobile 1, p. 5)

11. The FCC has promulgated regulations for cellular service in the following areas: technical standards to assure technical integrity of systems for nationwide compatibility, market structure, and state certification prior to federal application for a construction permit. (Metro Mobile 1, pp. 6-7)

12. The FCC has pre-empted State regulation in determining that a public need currently exists for cellular service, setting technical standards for that service, and establishing a competitive market. Applicants for FCC cellular system authorizations are not required to demonstrate a public need for the service. (Metro Mobile 1, p. 6)

13. The FCC has determined that the public interest requires two licenses for cellular service be made available in each market area, or NECMA, to provide competition. One license is awarded to a wireline company, the other to a non-wireline company. In the New Haven NECMA, the FCC has authorized Metro Mobile to be the non-wireline service provider. (Metro Mobile 1, pp. 3, 6, 9; Metro Mobile 1, Exhibit 7)

14. Cellular service consists of small, overlapping broadcast regions. These regions or cells are limited in coverage by the FCC's technical standards governing transmitting power. The maximum effective radiated power allowed is 100 watts, per channel as measured at the tower site and assuming all allocated channels are simultaneously operational. The system design provides for frequency reuse and call transfer, orderly expansion, and compatibility with other cellular systems. (Metro Mobile 1, pp. 13-17; Tr. pp. 51-53, 99, 106; Docket 107, Finding 13)

15. The proposed cellular facility would operate in the 870-890 megahertz (MHz) frequency range with a maximum of 90 channels. Metro Mobile uses a maximum of 312 channels throughout its service area. (Metro Mobile 1, Exhibit 1, p. 13; Metro Mobile 1, Exhibit 8, pp. 2, 13; Tr. pp. 24, 42-43)

16. The electromagnetic power density emissions at the primary and alternate sites, assuming all 90 channels are operating simultaneously at maximum allowable power, would be 0.068 milliwatts per square centimeter (mW/cm^2). This would be below the American National Standards Institute (ANSI) standard of 2.92 mW/cm^2 as adopted by the State in CGS Section 22a-162 and 22a-162a, for frequency ranges to be used in the proposed cellular system. (Metro Mobile 1, pp. 11-12; Metro Mobile 1, Exhibit 9, pp. 2, 10; Tr. 98-103)

17. Cell sites require a 10 percent to 20 percent overlap of coverage between adjacent cell sites. This overlap allows an uninterrupted transfer, or hand off of calls in progress from one frequency to another and from one cell to another cell. (Metro Mobile 1, Exhibit 11, p. 8; Metro Mobile 1, Exhibit 12, pp. 6-7)

18. Cell site call handling capability can be increased by adding more channels until the maximum is reached, or by reassigning frequencies to new facilities within existing cells or in adjoining areas. (Metro Mobile 1, Exhibit 11, pp. 9-10; Tr. pp. 21-22, 51-53)

19. As part of Metro Mobile's overall system, the proposed North Haven facility is planned to overlap existing cellular coverage from operating sites in Hamden, North Branford, and Meriden. (Metro Mobile 1, p. 18, Metro Mobile 1, Exhibit 11, pp. 9-10)

20. During peak hours, the Hamden, North Branford, and Meriden call handling experience has been as follows:
    Hamden - 400 calls/hour;
    North Branford - 150 calls/hour; and
    Meriden - 800 calls/hour.
    The maximum number of calls that could be handled by the first quarter of 1990, would be as follows:
    Hamden - 3600 calls/hour (600 calls/hour for each of six sectors);
    North Branford - 1200 calls/hour; and
    Meriden - 3600 calls/hour (600 calls/hour for each of six sectors).
    (Metro Mobile 2, Q-10; Tr. pp. 17,70)

21. The combined service areas that the three existing facilities and the proposed North Haven facility would cover includes Interstate 91 (I-91) from New Haven to Hartford. Present traffic through this highway corridor north of New Haven is heavy, and there is evidence of

weak signal strength which has resulted in dropped and blocked calls from inadequate coverage. Metro Mobile contends that the Hamden and Meriden facilities are expected to reach maximum call handling capacity by the summer of 1990. (Metro Mobile 1, p. 10; Metro Mobile, 1, Exhibit 11, p. 10; Metro Mobile 2, Q-10; Metro Mobile 2, Q-11; Tr. pp. 68-69)

22. The proposed North Haven site would be a sectorized facility. This would allow 90 additional simultaneous calls within the North Haven site's area above what is currently provided by the Meriden, Hamden, and North Branford facilities by providing additional cellular traffic handling capability through call transfers from one facility to another. The North Haven facility would have six sectors handling 15 simultaneous calls each which, if configured similarly to the sectorized Meriden facility, would have a capability of 3600 calls per hour or 600 calls per hour for each of the six sectors. (Metro Mobile 1, Exhibit 11, p. 11; Metro Mobile 2, Q. 3, Q.10; Tr. pp. 22-28)

23. The coverage of the proposed North Haven site would include a section of Wallingford containing two miles of I-91, which is currently on the borderline of the coverage areas of the Meriden and North Branford facilities. Calls from this area would be off-loaded from the Meriden facility to the North Haven facility. (Metro Mobile 1, Exhibit 8, Tr. pp. 57-59)

24. Metro Mobile determined a 120-foot tower would be the minimum tower height that could provide the necessary even distribution of call handling traffic through the North Haven area. (Tr. pp. 54-55, 59-62)

25. Both the proposed and alternate sites would provide cellular coverage to Interstate 91, State Routes 5 and 15, and areas of New Haven, Hamden, North Haven, and Wallingford within the New Haven NECMA. (Metro Mobile 1, p. 7)

26. To date, the proposed cellular facility represents state-of-the-art technology, and Metro Mobile is not aware of technically, viable alternatives to its system design. There is no licensed or experimental mobile satellite telephone service. (Metro Mobile 1, p. 18)

27. Metro Mobile considered 10 sites for the proposed facility, rejecting eight. Actual site selection was based on several factors including availability, area coverage, environmental impact, technical compatibility, site access, and reasonable leasing or purchase terms. (Metro Mobile 1, Exhibit 11, p. 5; Metro Mobile 1, Attachment A)

28. Each of the eight rejected sites were not acceptable for one or more of the following reasons: residential development

and visibility; areas targeted for future commercial development; inadequate coverage, elevation, or structural insufficiency from existing towers; areas zoned commercial or without industrial zoning; and limited open space. (Metro Mobile 1, Exhibit 11, Attachment A)

29. Metro Mobile proposes to construct a 120-foot high, self-supporting steel monopole tower. Two 15-foot transmit antennas with supporting pipes would be mounted at the top with six nine-foot by three-foot receive antennas side-mounted at the 111 foot level. The total structure height, including antennas, would be 133 feet above ground level (AGL). (Metro Mobile 1, Exhibit 4, pp. 8, 13)

30. The proposed tower would be designed to withstand the equivalent of 90 miles per hour (MPH) wind pressures with a 0.5 inch radial ice accumulation in accordance with the Electronic Industries Association Standard RS-222-D. The tower foundation would be a design based on soil conditions at the site. (Metro Mobile 1, p. 8; Metro Mobile 1, Exhibit 5)

31. Metro Mobile also proposes to construct a 20-foot by 30-foot, single story, pre-fabricated concrete equipment building on the proposed site. (Metro Mobile 1, p. 8; Metro Mobile 1, Exhibit 5)

32. The proposed facility would be constructed on approximately 5,270 square feet of land, 75-foot by 75-foot, located to the rear of a larger 3.2 acre parcel at 289 Washington Avenue, North Haven, Connecticut. The land is owned by Emilio Parese and is presently used as an automobile repair garage and insurance adjusting office. Access and utility easements to the proposed site would cross an adjacent parcel owned by Emilio and George Parese. (Metro Mobile 1, p. 2; Metro Mobile 1, Exhibit 1, pp. 1, 4-7; Metro Mobile 1, Exhibit 9, p. 1)

33. Access to the site would be along an existing driveway. In the event the proposed access becomes unavailable, a new gravel driveway would be constructed. Utility lines would be undergrounded along a 400-foot easement and supplied by United Illuminating and Southern New England Telephone Company. (Metro Mobile 1, Exhibit 1, pp. 1,7)

34. The proposed site would be adjacent to and east of National Railroad Passenger Corporation (Amtrak) railroad property, approximately 0.2 miles north of Interchange 12 of I-91 and 400 feet northwest of Washington Avenue (Route 5). An electrical transmission line is located adjacent to and west of the railroad track. (Metro Mobile 1, Exhibit 1, p. 12); Metro Mobile 1, Exhibit 11, p. 1; Metro Mobile Late File Exhibit 7)

35. At the proposed site, the tower base would be located approximately 15 feet from the Amtrak railroad right-of-way, 30 feet from the tracks, approximately 80 feet from a transmission line to the west, and 470 feet from Washington Avenue. The fall zone of the tower would include the railroad tracks and the electric transmission line. (Metro Mobile Exhibit 2, Q. 5; Metro Mobile Late File Exhibit 7; Tr. p. 76)

36. The proposed equipment building, and an office building and garage on the adjacent property to the south and east of the proposed site, owned by James Robinson, would be located within the fall zone of the proposed tower. (Metro Mobile 1, Exhibit 6; Metro Mobile 2, Q-5, Sheet F-8); Tr. pp. 77, 89)

37. The Amtrak railroad company was notified of the proposed facility by Metro Mobile. (Metro Mobile 1, Exhibit 5; Tr. p. 79)

38. The current agreement with the owner of the proposed site does not allow the relocation of the leased site within the parcel. (Metro Mobile 2, Q. 16; Tr. p. 77)

39. The proposed site is flat and would require minimal leveling and clearing of undergrowth vegetation. Approximately 20 to 25 three-inch to five-inch diameter trees would be removed from the permanent utility easement corridor. The topography of the site would remain essentially unchanged following construction. (Metro Mobile 1, Exhibit 1, p. 6; Metro Mobile 1, Exhibit, 9, p. 1; Metro Mobile 2, Q-6)

40. Metro Mobile inspected the soil conditions at the proposed and alternate sites and determined the ground to be sufficiently solid to support a tower without settling. A soil analysis would be provided as part of a Development and Management Plan. (Metro Mobile 2, Q. 2)

41. No water flow and/or quality changes are expected to result from the construction or operation of the proposed facility. The facility would not discharge any pollutants to the ground water. There are no lakes, ponds, rivers, streams, or other regulated bodies of water on the site. (Metro Mobile 1, Exhibit 9, p. 1)

42. The facility would emit no air pollutants except for limited periods of power outages when a standby generator would be used. Except for air conditioning and emergency power equipment, the facility would emit no noise. Some short term noise would be expected during cell site construction. (Metro Mobile 1, Exhibit 9, p. 1)

43. There are two residences located within 1,000 feet of the proposed tower with the nearest residence located 630 feet northeast of the proposed tower site. (Metro Mobile 1, Exhibit 1, p. 6)

44. The proposed site is located approximately 2,700 feet east of the Quinnipiac River State Park. (Metro Mobile 4)

45. The proposed tower would be partially visible from Route 5, the Wilbur Cross Highway, I-91, the Quinnipiac River State Park, and from some residential areas located on or near Route 5 in the vicinity of the tower. Partial screening would be created by 20-foot to 70-foot high coniferous and deciduous trees located on intervening lands. Metro Mobile would place additional plantings at the site for further screening. (Metro Mobile 1, Exhibit 9, p. 2; Metro Mobile 4; Tr. p. 65)

46. On the alternate site, Metro Mobile would construct a 120-foot high, self-supporting steel monopole tower with the same antenna configuration as the proposed tower. The total structure height including antennas would be 133 feet AGL. Wind loading specifications would be identical to the proposed tower. (Metro Mobile 1, Exhibit 2, pp. 8, 12)

47. The alternate site would be a 12-foot by 12-foot parcel of land located between Amtrak railroad property to the west and the rear of the North Haven Shopping Center, 117 Washington Avenue, North Haven, Connecticut. The facility's equipment would be located in an adjacent existing building in a room approximately 13 feet by 58 feet. The tower would be constructed approximately five feet from an existing loading ramp contiguous to the existing building. (Metro Mobile 1, Exhibit 2, pp. 1, 2; Metro Mobile 2, Q-7)

48. Metro Mobile has a lease from the owner of the North Haven Mall, granting the right to construct the proposed alternate facility. (Tr. p. 86)

49. Access to the alternate site from Washington Avenue, would be over existing parking lots. Utilities are located at the site. The terrain is flat, paved, and contained within a commercially developed area. (Metro Mobile 1, Exhibit 2, p. 1)

50. At the alternate site, the tower base would be located approximately 70 feet from the AMTRAK railroad right-of-way, 85 feet from the railroad tracks, approximately 100 feet from an electric transmission line located adjacent to and west of the railroad tracks, 485 feet from I-91, and 550 feet from Washington Avenue. The fall zone of the tower would include the railroad tracks, the electric transmission line, a

portion of an abutting building's parking lot, and structures of the lessor's property. None of the existing structures of the abutting properties or parking areas in the shopping center would lie within the fall zone. (Metro Mobile 2, Q. 5; Metro Mobile Late File Exhibit 7)

51. There are ten residences located within 1,000 feet of the alternate site with the nearest residence located approximately 700 feet southeast of the proposed tower site. (Metro Mobile 1, Exhibit 2, p. 6)

52. The alternate site is approximately 2,700 feet southeast of the Quinnipiac River State Park. (Metro Mobile 4)

53. If constructed at the alternate site, the tower would be only partially visible from some surrounding areas due to the screening effects of deciduous and coniferous trees located on intervening property. Additionally, the tower would be visible from Route 5, the Wilbur Cross Parkway, and Interstate 91, and from the Quinnipiac River State Park. (Metro Mobile 1, Exhibit 9, p. 11; Metro Mobile 4)

54. Construction of the alternate facility would not change water flow and/or quality on the cell site. No lakes, ponds, rivers, streams, or other regulated bodies of water are located on the site. The facility would not discharge any pollutants to the ground water. (Metro Mobile 1, Exhibit 10, p. 10)

55. The zoning for the proposed and alternate cellular sites is IL-30 industrial. Land uses surrounding the proposed and alternate sites are mostly industrial and commercial, but also include some residential and open spaces. (Metro Mobile 1, Exhibit 1, p. 6; Metro Mobile 1, Exhibit 2, p. 6)

56. No other companies or agencies have expressed an interest in sharing space on either the proposed or alternate towers. A monopole could be designed and constructed to support additional antenna load, but would be limited to its anticipated uses. (Metro Mobile 2, Q. 14)

57. A surrounding chain-link fence, and a security system would be installed at either facility, to provide security against trespassers. (Metro Mobile 1, p. 9; Tr. pp. 80-81)

58. Metro Mobile communicated with Town of North Haven officials regarding potential facility sites. Town officials recommended that a site be located in the industrial zone between Washington Avenue and the railroad tracks. (Metro Mobile 1, Exhibit 11; Metro Mobile 2, Q. 8)

59. The Department of Environmental Protection stated that construction of either the proposed or alternate towers should not result in significant, negative aesthetic effects and should not result in significant visual impact to Quinnipiac River State Park users. (Metro Mobile 4)

60. The DEP Natural Resources Center stated that there are no known extant populations of federally endangered and threatened species or Connecticut Species of Special Concern occurring on the proposed or alternate sites. (Metro Mobile 1, p. 12; Metro Mobile 1, Exhibit 10)

61. The South Central Regional Council of Governments voted to support the proposed project. (Metro Mobile 5)

62. The State's Historic Preservation Office reviewed the proposed project and concluded that construction of the proposed project would have no impact on historic, architectural, or archaeological resources listed on or eligible for the National or State Register of Historic Places. (Metro Mobile 6)

63. The Federal Aviation Administration has determined that the proposed or alternate towers would not be identified as an obstruction under any of its standards and would not be a hazard to air navigation. Obstruction marking and lighting would not be required. (Metro Mobile 1, Exhibit 1, p. 12; Metro Mobile 1, Exhibit 2, p. 12; Metro Mobile 2, Q-17, Q-20; Tr. p. 64, 94-96)

64. Total estimated cost of construction for the proposed site is as follows:

1. Radio Equipment	$437,500
2. Tower and antennas	38,800
3. Power system	18,000
4. Building	68,300
5. Miscellaneous including site preparation and installation	158,400
Total	$721,000

(Metro Mobile 1, Exhibit 1, p. 9)

65. Total estimated cost of construction for the alternate site is as follows:

1. Radio equipment	$437,500
2. Towers and antennas	38,800
3. Power system	18,000
4. Building	10,000
5. Miscellaneous including site preparation and installation	108,400
Total	$612,700

(Metro Mobile 1, Exhibit 2, p. 9)